

GO-ESSP and the IPCC AR5 Timeline

Karl E. Taylor

Program for Climate Model Diagnosis and Intercomparison
Lawrence Livermore National Laboratory

Presented to the
GO-ESSP Community Workshop

Paris, France

11 June 2007

CMIP4 / IPCC AR5 Model Simulations

- IPCC Fifth Assessment Report
 - No commitment yet, but likely will happen
 - If it happens, some guess 2013; others think it might be delayed.
 - WCRP, IGBP, IPCC and Integrated Assessment modeling teams will coordinate activities.
- WCRP Coupled Model Intercomparison Project (CMIP) to play a leading role.
 - Oversight by WCRP's Working Group on Coupled Modeling (WGCM)
 - Future scenarios and standard (benchmark) experiments will continue
 - Control run
 - 20th Century with realistic forcing
 - 1%/yr CO₂ increase
 - Future scenarios

CMIP4 / IPCC AR5 models, simulations, and model output characteristics:

- Models will be more comprehensive
 - Atmospheric chemistry
 - Carbon cycle
- Models to be run at higher resolution
- Future scenarios will cover:
 - “Near-term” 20-30 year projections (initial ocean conditions)
 - “longer-term” stabilization scenarios (carbon cycle)
- Model output will be perhaps $O(100)$ times larger than for AR4 (i.e., 1000 Tbytes).

Preliminary AR5 time line (assuming 2013 publication)

- September 2007
 - Primary set of "benchmark" experiments tentatively agreed upon
 - Preliminary set of standard output defined
- March 2008
 - standard output finalized
 - New version of CMOR released, accommodating some non-rectangular grids
 - modeling groups begin running benchmark experiments
- September 2008
 - All required experiments defined
- 2009: modeling groups run models and produce output
- 2009: GO-ESSP becomes operational; some model output made available
- 2010: All model output available through GO-ESSP

Some high priorities for CMIP4 / AR5

- Cut corners and do whatever is necessary to make it as easy to download data from the distributed database as it was from the centralized CMIP3/AR4 database.
- Ability to subset, concatenate, average.
- Essential to inform users of corrections to archived data (automate this!).
- Provide additional documentation
 - Models
 - Experiment conditions (e.g., which forcings included)
- Coordinate/integrate data services of WG1 and WGs 2&3